



US 20100068968A1

(19) **United States**

(12) **Patent Application Publication**  
**Chen**

(10) **Pub. No.: US 2010/0068968 A1**

(43) **Pub. Date: Mar. 18, 2010**

(54) **METHODS TO MANUFACTURE THE HULA HOOPS AND THEIR PRODUCTS**

**Publication Classification**

(76) Inventor: **Chia-Liang Chen, Hsinchu (TW)**

(51) **Int. Cl.**  
**A63B 19/00** (2006.01)

(52) **U.S. Cl.** ..... **446/236; 29/428**

Correspondence Address:

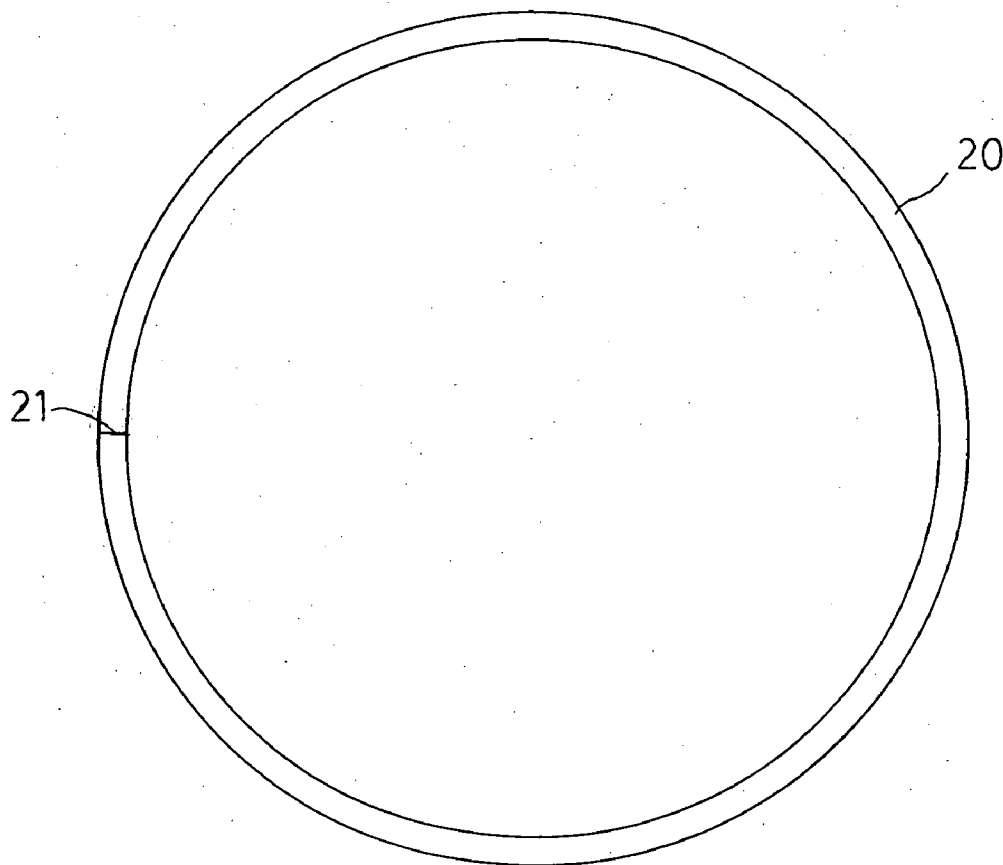
**ROSENBERG, KLEIN & LEE**  
**3458 ELLICOTT CENTER DRIVE-SUITE 101**  
**ELLICOTT CITY, MD 21043 (US)**

(57) **ABSTRACT**

The present invention is a kind of innovative method to manufacture the hula hoops and their products, which directly joints two ends of the hollow plastic pipe together to form an integrated body by a hot welding method. And, it is different from other ordinary methods that need to utilize a sleeved element or jointing device to joint then form the hula loop. It can not only reduce the waste of materials but also shorten the time required for manufacturing. Thus, it can reach the purpose of largely saving the manufacturing cost.

(21) Appl. No.: **12/232,400**

(22) Filed: **Sep. 17, 2008**



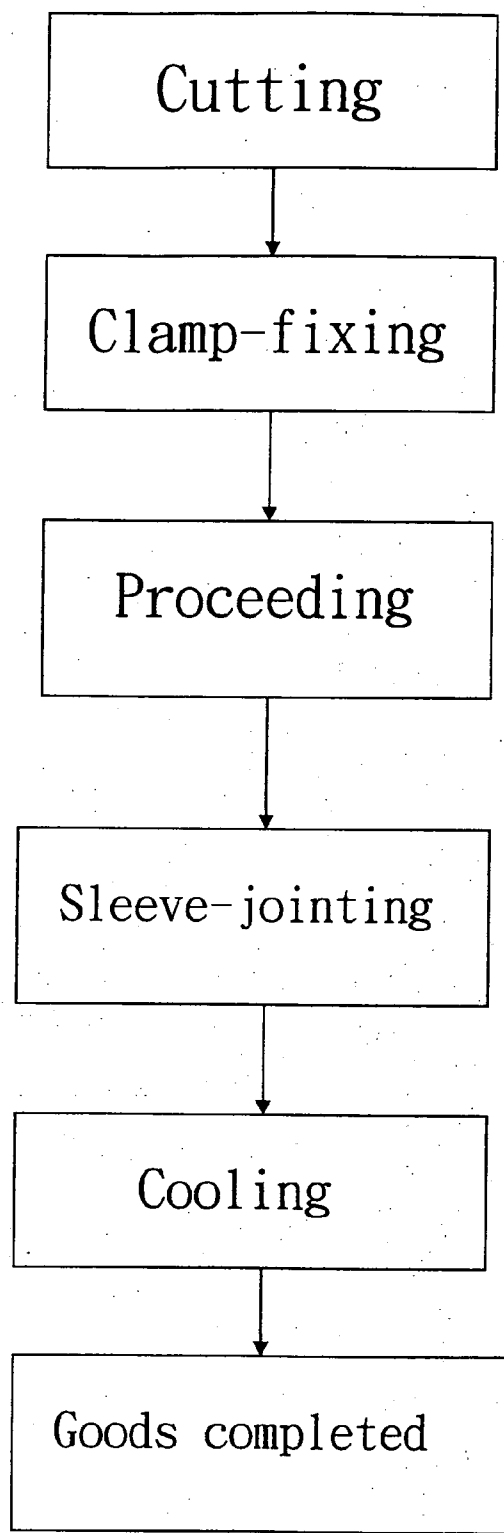


FIG. 1

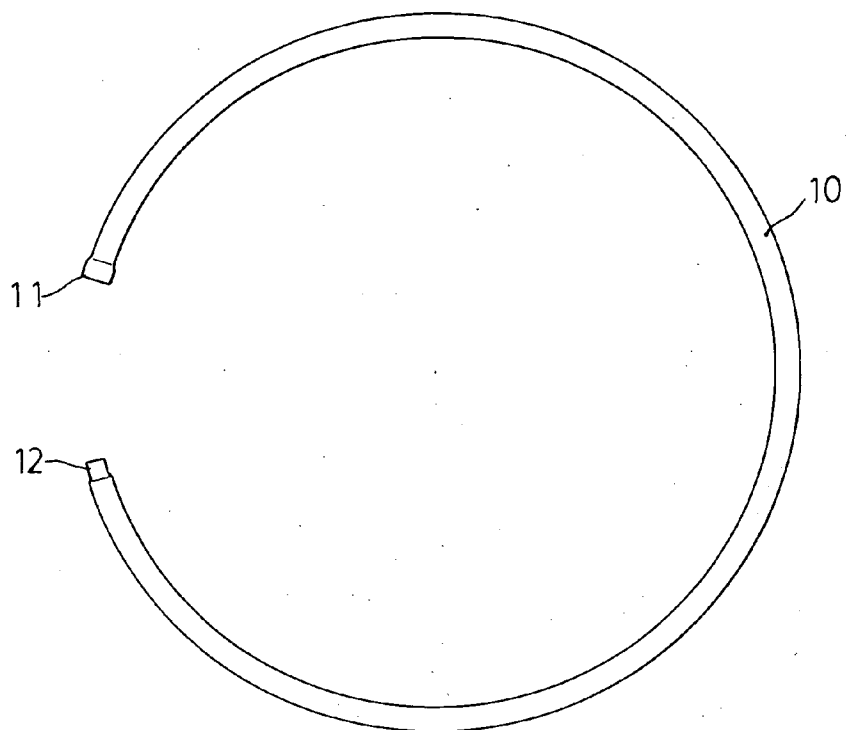


FIG. 2

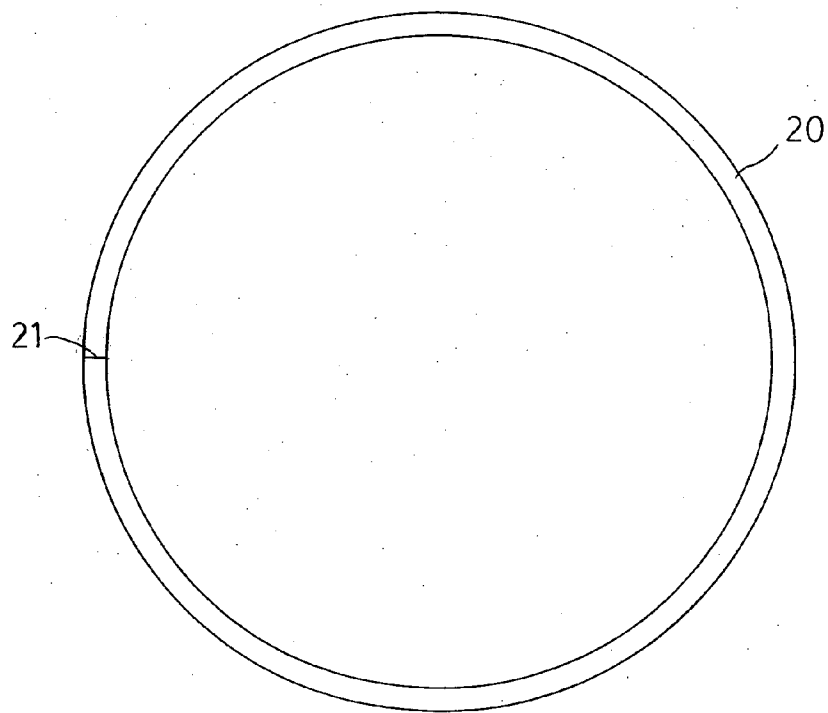


FIG. 3

**METHODS TO MANUFACTURE THE HULA HOOPS AND THEIR PRODUCTS**

**BACKGROUND OF THE INVENTION**

[0001] The known methods to manufacture the hula hoops include two types: one type is the sleeved elements are jointed by adopting an inner sleeve-jointing method and the other type is the jointing devices are jointed by adopting an outer sleeve-jointing method. These two methods both need to further utilize the other elements to be cooperated with the hollow plastic pipe. They are again processed by machines then finish the production of the hula hoops. This just increases the waste of material, and the manufacturing procedures are complex then let the manufacturing time become too long. Relatively, it will cause a higher manufacturing cost and need to be improved.

**SUMMARY OF THE INVENTION**

[0002] The present invention is related to a kind of innovative method to manufacture the hula hoops and their products, which is mainly aimed at the prior art methods that need to utilize a sleeved element or jointing device to joint then form the hula hoop. Through the bending of a single pipe body and:the one timed manufacturing and forming, it not only can reduce the waste of materials but also shorten the time required for manufacturing. Thus, it can reach the purpose of largely saving the manufacturing cost. The structure and characteristics of the present invention are now described hereafter in cooperation with the drawings.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0003] FIG. 1 is an explanatory flow drawing of the manufacturing steps in the process of the present invention.  
[0004] FIG. 2 is an outside appearance drawing of the semi-finished goods in the process of the present invention.  
[0005] FIG. 3 is an outside appearance drawing of the finished goods after completing the process of the present invention.

**DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

[0006] The present invention is related to a kind of method to manufacture the hula hoops and their products, which is an innovative design aimed at the manufacturing process while the hula hoop is jointed then formed. The process is shown in FIG. 1 and is including:

- [0007] Step 1. Cutting in advance a required certain length of hollow plastic pipe (or other kind of hollow plastic pipe with bendable and capable of hot molten material properties);
- [0008] Step 2. Clamp-fixing two ends of the hollow plastic pipe in opposite directions by machines and keeping a specific distance away;

- [0009] Step 3. The hot molten devices set in the machines are utilized to proceed a heating to the hollow plastic pipes simultaneously in the inner rim of one end and in the outer rim of the other end, and the depths of heating are the same;
- [0010] Step 4. The push-shifting mechanisms set in the machines are utilized to move and sleeve-joint the heated two ends of the hollow plastic pipe;
- [0011] Step 5. The cooling device set in the machines are utilized to proceed a cooling process to the sleeve-jointed locations of the hollow plastic pipe to fix-joint them and form as a form of integrated body; and
- [0012] Step 6. Finally, the hollow plastic pipes completing the fix-jointing in their two ends are withdrawn from the machines to form a circular hula loop product.

[0013] Please refer to those shown in FIGS. 2 and 3. During the production process of the hula loop in the present invention, after two ends of the hollow plastic pipe 10 has its both ends heated, the inner rim in one end is heated to slightly enlarge the outside diameter of the orifice 11 and the outer rim in another end is heated to slightly shrink the outside diameter of the orifice 12 such that two ends of the hollow plastic pipe 10 can be mutually sleeve-jointed together then wait to be fix-jointed as an integrated body after being cooled to thus form a circular hula loop 20. And, there is a neat and smooth situation without, any protrusion shown at the jointed locations.

[0014] Thus we will know that the hula hoops of the present invention completed through the aforementioned method have the advantages of decreasing in the wasted material and being able to shorten the required time in production to achieve the substantial cost saving in production. And the outside appearances of finished goods are neat and smooth. It thus obtains the practicability and advancement conforming to the requirement for patent approval.

I claim:

- 1. A method to manufacture the hula loop, wherein the manufacturing steps including:
  - Step 1. Cutting a certain length of hollow plastic pipe;
  - Step 2. Clamp-fixing two ends in opposite directions by a specific distance;
  - Step 3. Proceeding a heating simultaneously in the inner rim of one end and in the outer rim of the other end;
  - Step 4. Sleeve-jointing the heated two ends;
  - Step 5. Cooling the sleeve-jointed locations to fix-joint them and form as an integrated body; and
  - Step 6. The finished goods are then completed.
- 2. A hula loop product being a hollow plastic pipe with its both ends heated, wherein the inner rim in one end is heated to slightly enlarge the outside diameter of the orifice and the outer rim in another end is heated to slightly shrink the outside diameter of the orifice such that two ends of the hollow plastic pipe can be mutually sleeve-jointed together then fix-jointed as an integrated body after being cooled to form a circular hula loop.

\* \* \* \* \*